

CASE STUDY:
Buck Institute

Industry:
Commercial



ClearFire®-C Boilers Better Match Load Requirement at Buck Institute

The Buck Institute, located in Novato, Calif., is the nation's first independent research facility focused solely on understanding the connection between aging and chronic disease. The Institute depends upon the availability of a reliable heating system, and its steam boiler system was antiquated, but financial constraints prevented the pursuit of a replacement.

The situation changed when an impeller fan broke, significantly damaging one of the boilers. With no backup to replace the broken unit, Buck Institute Facilities Manager Ralph O'Rear contacted R.F. MacDonald Co., headquartered in Hayward, Calif.

Early analysis set the cost of repair at \$75,000, leaving the same high-maintenance, low-efficiency system in place. With this and the Institute's long-term needs in mind, R.F. MacDonald presented a more economical solution.

They recommended forgoing the repair in favor of a replacement with four high efficiency, low NOx Cleaver-Brooks ClearFire®-C (CFC) hydronic boilers. This eliminated the need for heat exchangers while reducing the system's physical footprint by half that of the previous one.

The ClearFire package included a Falcon control, a Cleaver-Brooks integrated control interface that sequences multiple boilers, eliminating the need for a stand-alone control. The existing flue system was re-utilized with only partial modification done to save installation costs.

The new CFC-C boilers meet Bay Area Air Quality Management District, low NOx permit requirements and have shown significant gas and electrical savings. The Buck Institute's former closed-loop, low pressure steam system was completely oversized for the facility. The new boilers more closely match their load requirement and offer the low-cost, low-maintenance heating solution that the Institute needed.

Replacing the oversized, antiquated low pressure steam boilers has reduced maintenance costs by 65 percent and earned Buck Institute a \$26,000 rebate from Pacific Gas and Electric Company for energy savings. O'Rear added that the boilers have led to "excellent fuel savings reductions" at the Institute.



BUCK INSTITUTE

LOCATION

Novato, California

PROFILE

An impeller fan broke on an older steam boiler causing significant damage to the unit

CHALLENGE

The system had to meet stringent local emissions requirements

SOLUTION

Replace the older steam system with four ClearFire®-C hydronic boilers

RESULTS

- Sixty-five percent reduction in maintenance costs
- Significant gas and electrical savings

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